

SEQUENCE LISTING

(i) GENERAL INFORMATION:

(i) APPLICANT: KREIDER, BRENT L.
RUBEN, STEVEN M.
OLSEN, HENRIK S.

(ii) TITLE OF INVENTION: CHEMOKINE β -6 ANTAGONISTS

(iii) NUMBER OF SEQUENCES: 114

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
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(C) CITY: WASHINGTON
(D) STATE: DC
(E) COUNTRY: USA
(F) ZIP: 20005-3934

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Floppy disk
(B) COMPUTER: IBM PC compatible
(C) OPERATING SYSTEM: PC-DOS/MS-DOS
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: To be assigned
(B) FILING DATE: 8-9-97
(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA:

(A) APPLICATION NUMBER: 00/042,269
(B) FILING DATE: 31-MAR-1997

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: STEFFE, ERIC K
(B) REGISTRATION NUMBER: 36,688
(C) REFERENCE/SECRET NUMBER: 1488.0340004

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: 202-871-2600
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(x) INFORMATION FOR SEQ. ID NO. 1:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 301 bp (bp)
(B) TYPE: nucleotide
(C) STRAIN/GENE/OTHER:
(D) TISSUE/CELL:

(ii) MOLECULAR WEIGHT:

(iii) FEATURES:

(A) NAME:
(B) FUNCTION:

(iv) ANALYSIS:

(A) NAME/KEY: sig_peptide
(B) LOCATION: 1..17

(ix) FEATURE:

(A) NAME/KEY: mat_peptide
(B) LOCATION: 79..197

(xi) SEQUENCE DESCRIPTION: SEQ ID Number:

ATG GCA GGC CTG ATG ACC ATA GTA AGC AGC CTT GTG TTC CTT GGT GTC	48
Met Ala Gly Leu Met Thr Ile Val Thr Ser Leu Leu Phe Leu Gly Val	
-26 -25 -20 -15	
TGT GGC CAG CAG ATC ATC CCT AGC GGC TGT GTG GTC ATA CCC TCT CCC	96
Cys Ala His His Ile Ile Ile Thr Gly Ser Val Val Ile Pro Ser Phe	
-10 -5 1 5	
TGC TGC ATG TTC TTT GTT TCC AAG AGA ATT CTT GAG AAC CGA GTG GTC	144
Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu Asn Arg Val Val	
10 15 20	
AGC TAC CAG CTG TCC AGC AGG AGC ACA TGC CTC AAG GCA GGA GTG ATC	192
Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala Gly Val Ile	
25 30 35	
TTG AGC AGC AAG AAG GGC CAG CAG TTC TGT GGT TAT CCC AAG CAG CAG	240
Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Arg Pro Lys Gln Gln	
40 45 50	
TGG GTC CAG AAG TAT ATG AAG AAG CTC GAG TAT AAG CAG AAG AAG GGT	288
Trp Val Gln Arg Tyr Met Lys Arg Leu Arg Ala Lys Gln Lys Lys Ala	
55 60 65 70	
TCC CCT AAG GGC AAG GCA GTG GGT GTC AAG GGC CTT GTC CAG AGA TAT	336
Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Phe Val Gln Arg Tyr	
75 80 85	
CCT GGC AAG CAG ACC ACC TTT TAA	384
Phe Gly Asn Gln Thr Thr Cys	
90	

(x) INFORMATION FOR SEQ ID Number:

(1) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 117 amino acids
(B) TYPE: protein
(C) SOURCE: human

(2) MISSION: THE PROTEIN

(3) FUNCTIONAL INFORMATION: THE PROTEIN

Met Ala Gly Leu Met Thr Ile Val Thr Ser Leu Leu Phe Leu Gly Val

Trp Val Gln Arg Tyr Met Lys Arg Leu Arg Ala Lys Gln Lys Lys Ala

Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Gln Asn Arg Val Val
 1 15 20
 Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala Gly Val Ile
 25 30 35
 Ile Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Phe Lys Gln Gln
 40 45 50
 Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln Lys Lys Ala
 55 60 65 70
 Ser Phe Arg Ala Arg Ala Val Ala Val Lys Gly Phe Val Gln Arg Tyr
 75 80 85
 Phe Gly Asn Gln Thr Thr Cys
 90

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) SEQUENCE DESCRIPTION: SEQ ID NO:3:

TTAATATG TAAATATG TATATG

(3) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) SEQUENCE DESCRIPTION: SEQ ID NO:4:

TTAATATG TAAATATG TATATG

(4) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 26 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Met Lys Val Phe Ala Ala Leu Leu Cys Leu Leu Leu Ile Ala Ala Thr
 1 5 10 15
 Phe Ile Pro Gln Gly Leu Ala Gln Pro Asp Ala Ile Asn Ala Pro Val
 20 25 30
 Thr Cys Cys Tyr Asn Phe Thr Asn Arg Lys Ile Ser Val Gln Arg Leu
 35 40 45
 Ala Ser Tyr Arg Arg Ile Thr Ser Ser Lys Cys Pro Lys Glu Ala Val
 50 55 60
 Ile Phe Lys Thr Ile Val Ala Lys Glu Ile Cys Ala Asp Pro Lys Gln
 65 70 75 80
 Lys Trp Val Gln Asp Ser Met Asp His Leu Asp Lys Gln Thr Gln Thr
 85 90 95
 Pro Lys Thr

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 285 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

ATGGTGGTTA TACCTTCTCC GTGCTGCATG TTCTTTGTTA GCAAGCGCAT TCCTGAAAAA 60
 CGTGTGGTCA GTACCAACT GTCCAGGCGC ASCAATGCC TGAAGGCTGG GTTGATTTT 120
 ACCAGAAAAA AGGCGGACCA GTTCTGTGTT GAGCGGAAAT AAAGTGGCT CAGAGTTAA 180
 ATCAAAAAAT TAAAGGCTAA ACAGAAAGAA GTTCTATG GTTATGAAAT AATAGTAT 240
 AAAAGGCTG TTGAGCTTA TAAAGGGAAT CAAATAT GTTAA 300

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 285 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: double
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

1992

(1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 97 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

51.
95

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 98 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

650

(1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 42 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TYPE OF: linear

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

GGGGGATCCC CATATGGTGG TTATACCTT TCCG

34

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 32 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

GACTGGTACC TTAGCAGGTG GTTGGTTGG CC

37

(2) INFORMATION FOR SEQ ID NO:13:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

GGTATATAT TTAATGAAA TTTAACTT TTTCTT

40

(2) INFORMATION FOR SEQ ID NO:14:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

GACTGCTAAG CTATCAAGAC ATTCTTAA GAGAAAT

37

(2) INFORMATION FOR SEQ ID NO:14:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 34 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

GACTCATATG GTTATACCTT CTCCGTGCTG CATG

34

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

GACTCATATG ATACTCTCTC GATGCTATAT G

31

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

GACTCATATG GATCTCTCTC GATGCTATAT G

31

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 31 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(iii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

32

(2) INFORMATION FOR SEQ ID NO:19:

(1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 29 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: cDNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

24

(2) INFORMATION FOR SEQ ID NO:20:

(1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 36 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(54) MOLECULE TYPE: COMB.

(31) SEQUENCE DESCRIPTION: SEQ ID NO:20:

34

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1. SPECIMENS - CHARACTERISTICS:

- (A) LENGTH: 4.16 inch (107 mm)
- (B) TYPE: marked - wild
- (C) STRAIN/NUMBER: 10010
- (D) Tag ID# : 10010

[illegible]

CAATTCTGAG CGGATAAATA TTTACACAT TAAAGAGGAG AAATTACATA TGGTGGTTAT 120
 AGCTTCTGAG TTTTCTATGT TCTTTTCTAG CAAGCGCATT CCTGAAAACC GTGTGGTCAG 180
 CTACCAATCT TTTTCTATGT TTTTCTATGT TTTTCTATGT TTTTCTATGT 240
 GGGGCAAAAG TTTTCTATGT TTTTCTATGT TTTTCTATGT TTTTCTATGT 300
 GGAGGCAAAA CAGAGAGAAAG CTTCCTCTCG TGCCCGCGCA GTGGCTGTCA AAGGCTCTGT 360
 TCAGGTTTAT CCGGCAAAAC AAACACCTG CTAAGGTACC TAAGTGAGTA GGGCGTCCGA 420
 TCGAGGAAAG CTTTCTATGT GAATTCGTAA TCATGGTCAT AGCTGTTTCC TGTGTGAAAT 480
 TGTATCTGAG TTTTCTATGT ACACAACATA CGAGCCGGAA GCATAAAGTG TAAAGCCTGG 540
 GGTGCTAAT CAGTGAGGTA ACTCACATTA ATTGCTTGC GCTCACTGCC CGCTTTCCAG 600
 TCGGAAAGAG TGTGCTGCA GCTGCATTAA TGAATCGGAC AACGCGCGGG GAGAGGCGGT 660
 TTGGCTATTG GGGCTCTTC CGCTTCTCG CTCACTGACT CGCTGCGCTC GGTCTTCCGG 720
 CTGGGCTGAG CGSTATCAGC TCACTCAAAG GCGGTAATAC GGTATCCAC AGAATCAGGG 780
 GATAACGCA GAAAGACAT GTGAGCAAAA GGCCAGCAAA AGGCCAGGAA CCGTAAAAAG 840
 GGTGCTAAT TTTTCTATGT CCATAGGCTC CCGGCTCTCG ACGAGCATCA CAAAATCGA 900
 CGCTCAATCT AGAGGTGCG AAACCCGACA GGACTATAAA GATACCAGGC GTTCTCCCT 960
 GGAAGCTCT TGTGCTGCTC TGTGCTGCTC ACCCTGCGC TTACCGGATA CTTGCTCGCC 1020
 TTTCTCTCT TTTTCTATGT GGGCTCTCT CATATCTAC GGTGTAGGTA TCTCAGTCTG 1080
 GTGTATCTCT TTTTCTATGT GGTGCTGCT GTGCTGCTC CCGGCTCTCA GCGGAGCGC 1140
 TGTGCTATCT CTTTCTATGT TGTGCTGCT TGTGCTGCT TAAGACACGA CTTATCGCA 1200
 CTGATATCT CTTTCTATGT CAGGATTAG AGAGGAGGT ATGTAGGCGG TGTACAGAG 1260
 TTTTCTATCT GGTGCTGCT CTAAGGCTAC ACTAGAAGAA CAGTATTTGG TATCTGCTG 1320
 CTGATATCT CTTTCTATGT CCGAAAAAA GTTCTATCT CTTGCTGCT CAAATTAACC 1380
 AATCTATCT CTTTCTATGT TTTTCTATGT AATCTATCT TTAAGGCGC AAAAAAGGA 1440
 TTTTCTATCT CTTTCTATGT CTTTCTATGT CTTTCTATGT CTTTCTATGT 1500
 CTTTCTATCT CTTTCTATGT CTTTCTATGT CTTTCTATGT CTTTCTATGT 1560
 AATCTATCT CTTTCTATGT CTTTCTATGT CTTTCTATGT CTTTCTATGT 1620
 CTTTCTATCT CTTTCTATGT CTTTCTATGT CTTTCTATGT CTTTCTATGT 1680
 AATCTATCT CTTTCTATGT CTTTCTATGT CTTTCTATGT CTTTCTATGT 1740
 CTTTCTATCT CTTTCTATGT CTTTCTATGT CTTTCTATGT CTTTCTATGT 1800
 AATCTATCT CTTTCTATGT CTTTCTATGT CTTTCTATGT CTTTCTATGT 1860
 CTTTCTATCT CTTTCTATGT CTTTCTATGT CTTTCTATGT CTTTCTATGT 1920

GGGTGCCAGC GTGGTGGTGT CGATGGTAGA ACGAAGCGGC GTCGAAGCCT GTAAAGCGGC 1980
GGTGCACAAT CTTCTCGGGT AACGGCTCAG TGGGCTGATC ATTAAGTATC CGCTGGATGA 2040
CCAGGATGCC ATTGGTGTGG AAGTGGCTG CACTAATGTT CCGGGCGTTAT TTCTTATGT 2100
CTCTGACCAG ACACCCATCA ACASTATTAT TTTCTCCCAT GAAGACGGTA GGGCATGGG 2160
CGTGGAGCAT CTGGTGGCAT TGGGTCACCA GCAAATCGCG CTGTTAGCGG GCGCATTAAG 2220
TTCTGTCTCG GCGCGTCTGC GTCTGGCTGG CTGGCATAAA TATCTCACTC GCAATCAAAT 2280
TCAGCCGATA GCGGAACGGG AAGGCGACTG GAGTGCCATG TCCGGTTTTT AACAAACCAT 2340
GCAAATGCTG AATGAGGGCA TCGTTCCAC TCGATGCTG GTTGCCAACG ATCAGATGGC 2400
GCTGGGCGCA ATGCGCGCCA TTACCGAGTC CGGGCTGCGC GTTGGTGGG ATATCTCGGT 2460
AGTGGGATAC GACGATACCG AAGACAGCTC ATGTTATATC CCGCCGTTAA CCACATCAA 2520
ACAGGATTTT CCCCTGCTGG GGCAAACCG CGTGGACCGC TTGCTGCAAC TCTCTCAGG 2580
CCAGGCGGTG AAGGGCAATC AGCTGTTGCC CGTCTCACTG GTGAAAGAA AAACACCCCT 2640
GGCGCCCAAT ACGCAAACCG CCTCTCCCCG CGCGTTGGCC GATTCATTAA TGCAGCTGGC 2700
ACGACAGGTT TCCCGACTGG AAAGCGGGCA GTGAGCGCAA CGCAATTAAT GTAAATTAGC 2760
GCGAATTGTC GACCAAAGCG GCCATCGTGC CTCCTCACTC CTGCACTTC GGGGATGGA 2820
TGCGGGSATA GCGCTGCTG GTTCTCTGGA TGCCGACGGA TTTGCACTG CGGTAGAACT 2880
CGCGGAGGTC GTCCAGCTC AAGCAGAGC TGAACCAACT CGGAGCGA TAGAGCGCG 2940
GGTGGGCGAA GAACTCCAGC ATGAGATCCC CGCGCTGGAG GATCATCAG CGGAGTCCC 3000
GGAAAAAGAT TCCGAGGCC AACCTTTCAT AGAAGCGGCG GGTGAATCG AATCTCTGT 3060
ATGGCAGGTT GGGGCTGCT TGGTCTGCTA TTTCGAACCC CAGAGTCCC CTCAGAGAA 3120
CTGCTCAAGA AGCGGATAGA AGGCGATGCG CTGCGAATCG GGAGCGGGA TACGTAAG 3180
CAGGAGGAAG CGGTACGCC ATTGCGCGCC AAGCTCTTA GCAATATCA GTTATGAA 3240
CGCTATGTCC TGATAGCT TGGGAGAG CAGGAGCGA CAGTATTA ATCAAGAA 3300
GAGGCAATTT TCAAGATTA TATTAGGAA GAGGATTA CAGTATTA ATCAAGAA 3360
CTGAGATTA GAGTATTA TATTAGCT GAGGAGCT TCAAGATTA ATCAAGAA 3420
AGGCTCTTA TCAAGATTA TATTAGCT GAGGAGCT TCAAGATTA ATCAAGAA 3480
CTGAGATTA GAGTATTA TATTAGCT GAGGAGCT TCAAGATTA ATCAAGAA 3540
GAGGCAATTT TCAAGATTA TATTAGCT GAGGAGCT TCAAGATTA ATCAAGAA 3600
CTGAGATTA GAGTATTA TATTAGCT GAGGAGCT TCAAGATTA ATCAAGAA 3660
GAGGCAATTT TCAAGATTA TATTAGCT GAGGAGCT TCAAGATTA ATCAAGAA 3720
CTGAGATTA GAGTATTA TATTAGCT GAGGAGCT TCAAGATTA ATCAAGAA 3780
GAGGCAATTT TCAAGATTA TATTAGCT GAGGAGCT TCAAGATTA ATCAAGAA 3840
CTGAGATTA GAGTATTA TATTAGCT GAGGAGCT TCAAGATTA ATCAAGAA 3900

CTTGTGTTGAC AGCCGGAACA CGSCGGATC AGAAGAGG ATTGTCTGTT GTGGCAGTTC 3940
 ATAGCCGAAT AGCCTCTCCA CCCAAGGAGC GGAAGAACTT GCGTGCAATC CATCTTGTTC 3960
 AATCATGAGA AACGATCCTC ATCTGAGTC TTGATGASAT CTGATGAGC TGAGGATGTA 3980
 GATCCTTGGC GSCAAGAAAG CCATCCANTT TACTTTGAG GCGTTCCCAA CATTACCAJA 4020
 GGGGCCCCCA GCTGGCAATT CCGGTTGCTT TGCTGTGAT AAAACCGCCC AGTCTAGCTA 4040
 TCGCCATGTA AGCCCACTGC AAGCTAGCTG CTTTCTCTTT GCGCTTGGCT TTCCCTTGT 4140
 CCAGATAGCC CAGTAGTTGA CATTGATGAG GGGTCAGCAG CGTTTCTGCG GACTGGCTTT 4200
 CTACGTGTTC CGCTTCTTTT AGCAGCCCTT GCGCCTGAG TGCTTGCGGC AGCGTG 4256

(2) INFORMATION FOR SEQ ID NO:22:

- (1) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 112 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: double
 - (D) TOPOLOGY: linear

(11) MOLECULE TYPE: cDNA

(X1) SEQUENCE DESCRIPTION: SEQ ID NO:22:

AGGTTTAAA AACTGTAAA AATAATTGTA CTCTGAGTA GTATCAATT AGGATTAAT 60
 TAATTGTAG CGGATAACAA TTTCATGAT TAAAGAGA AAATTAAATA TG 112

(2) INFORMATION FOR SEQ ID NO:23:

- (1) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 45 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(11) MOLECULE TYPE: protein

(X1) SEQUENCE DESCRIPTION: SEQ ID NO:23:

Phe Ser Phe Cys Cys Met Thr Thr Val Ser Tyr Ala Thr Leu Thr Asp
 Ala Val Val Ser Tyr Glu Thr Ser Ser Ala Ser Thr Cys Leu Tyr Ala
 Gly Val Thr Thr Thr Thr Tyr Tyr Thr Thr Thr Thr Tyr

INFORMATION FOR SEQ ID NO:24:

- (1) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 45 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Gln Asn
1           5           10           15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20           25           30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly
35           40           45

```

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 47 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Gln Asn
1           5           10           15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20           25           30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35           40           45

```

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 48 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Gln Asn
1           5           10           15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20           25           30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35           40           45

```

Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45

(2) INFORMATION FOR SEQ ID NO:27:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Ala Ile Pro Gln Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45

Lys

(2) INFORMATION FOR SEQ ID NO:28:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 90 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Ala Ile Pro Gln Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45
Lys

(2) INFORMATION FOR SEQ ID NO:29:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 100 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

```
Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu
50
```

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 52 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

```
Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Trp
50
```

(3) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 47 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(3) SEQUENCE DESCRIPTION: SEQ ID NO:31:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Leu Glu Asn
 1 5 10 15
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
 20 25 30
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn Thr
 35 40 45
 Lys Gln Glu Thr Val
 50

(2) INFORMATION FOR SEQ ID NO:32:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 54 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
 1 5 10 15
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
 20 25 30
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn Thr
 35 40 45
 Lys Gln Glu Thr Val Gln
 50

(2) INFORMATION FOR SEQ ID NO:33:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 55 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
 1 5 10 15
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
 20 25 30
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn Thr
 35 40 45
 Lys Gln Glu Thr Val Gln
 50

Lys Glu Glu Thr Val Glu Arg
50 55

(2) INFORMATION FOR SEQ ID NO:34:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 56 amino acids
 (B) TYPE: amino acid
 (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45
Lys Glu Glu Thr Val Glu Arg Tyr
50 55

(3) INFORMATION FOR SEQ ID NO:35:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 57 amino acids
 (B) TYPE: amino acid
 (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:

Pro Ser Pro Tyr Cys Met Ile Ile Val Ser Lys Arg Ile Pro Glu Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45
Lys Glu Glu Thr Val Glu Arg Tyr
50 55

END OF SEQUENCE

1. The amino acid sequence of the protein of the invention is as shown in SEQ ID NO:34 and SEQ ID NO:35.

(i) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys
50          55

```

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 59 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pr
35          40          45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asp
50          55

```

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 59 amino acids
- (B) TYPE: amino acid
- (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu
50          55          60

```

(2) INFORMATION FOR SEQ ID NO:39:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 61 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asp
50          55          60

```

(2) INFORMATION FOR SEQ ID NO:40:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 61 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asp
50          55          60

```

50

55

60

(1) INFORMATION FOR SEQ ID NO:41:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 63 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
 1 5 10 15
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
 20 25 30
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
 35 40 45
 Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
 50 55 60

(2) INFORMATION FOR SEQ ID NO:42:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 64 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
 1 5 10 15
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
 20 25 30
 Gly Val Ile Ile Thr Thr Lys Lys Tyr Gln Gln Ile Cys Gly Asp Pro
 35 40 45
 Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
 50 55 60

END OF SEQUENCE INFORMATION

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 64 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys
65

```

(2) INFORMATION FOR SEQ ID NO:44:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 66 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys
65

```

(2) INFORMATION FOR SEQ ID NO:44:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 66 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

Pro Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Gln Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 55 60
Lys Lys Ala
65

(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

Pro Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Gln Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 55 60
Lys Lys Ala Ser
65

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 68 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30 35
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
40 45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 55 60
Lys Lys Ala Ser Pro
65

(2) INFORMATION FOR SEQ ID NO:147:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 70 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:148:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30 35
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
40 45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 55 60
Lys Lys Ala Ser Pro Arg
65 70

(2) INFORMATION FOR SEQ ID NO:149:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 71 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: protein

(xii) SEQUENCE DESCRIPTION: SEQ ID NO:150:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30 35
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
40 45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 55 60
Lys Lys Ala Ser Pro Arg
65 70

Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
 35 40 45
 Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
 50 55 60
 Lys Lys Ala Ser Pro Arg Ala
 65 70

(x) INFORMATION FOR SEQ ID NO:50:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 72 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
 1 5 10 15
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
 20 25 30
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
 35 40 45
 Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
 50 55 60
 Lys Lys Ala Ser Pro Arg Ala Arg
 65 70

(x) INFORMATION FOR SEQ ID NO:51:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 73 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
 1 5 10 15
 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
 20 25 30
 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
 35 40 45
 Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
 50 55 60
 Lys Lys Ala Ser Pro Arg Ala Arg
 65 70

Lys Lys Ala Ser Pro Arg Ala Arg Ala
6 70

(2) INFORMATION FOR SEQ ID NO:52:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 74 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 55 60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val
65 70

(2) INFORMATION FOR SEQ ID NO:53:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 75 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:

Phe Phe Ile Tyr Tyr Met Phe Phe Val Ser Tyr Arg Ile Ile Glu Asn
1 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30
Arg Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 55 60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val
65 70

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 77 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val
65          70          75

```

(x) INFORMATION FOR SEQ ID NO:55:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 77 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val
65          70          75

```

THE SEQUENCE OF THE PROTEIN IS:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 77 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30          35
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45          50
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60          65
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly
65          70          75

```

(2) INFORMATION FOR SEQ ID NO:57:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 79 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Ile Gln Asn
1          5          10          15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20          25          30          35
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Ile Phe Cys Gly Asp Pro
35          40          45          50
Lys Gln Glu Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60          65
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly
65          70          75

```

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 79 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Lys Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
65          70          75          80

```

(xii) INFORMATION FOR SEQ ID NO:59:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 81 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

```

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu Asn
1          5          10
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
25          30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35          40          45
Lys Gln Glu Lys Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50          55          60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
65          70          75          80
Gln

```

(xii) INFORMATION FOR SEQ ID NO:61:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 81 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: protein

(21) SEQUENCE DESCRIPTION: SEQ ID NO:60:

Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Leu Glu Asn
1 10
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
65 75 80
Gln Arg

(2) INFORMATION FOR SEQ ID NO:61:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 83 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(21) SEQUENCE DESCRIPTION: SEQ ID NO:61:

Pro Ser Pro Cys Cys Met Ile Phe Val Ser Lys Arg Ile Pro Glu Asn
1 10
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
65 75 80
Gln Arg Tyr

(2) INFORMATION FOR SEQ ID NO:62:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 81 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(X1) SEQUENCE IDENTIFI NO: SEQ ID NO:62:

```

1  His Ser His Cys Cys Met His His Val Ser Lys Arg His Leu Gln Asn
   1          5          10          15
2  Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
   20          25          30          35
3  Gly Val His His Thr Thr Lys Lys Gly Gln Gln His Cys Gly Asp Pro
   40          45          50          55
4  Lys Gln Gln Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
   60          65          70          75          80
5  Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
   85          90          95          100
6  Gln Arg Tyr His

```

(2) INFORMATION FOR SEQ ID NO:63:

(1) SEQUENCE CHARACTERISTICS:
 (a) LENGTH: 85 amino acids
 (b) TYPE: amino acid
 (c) TOPOLOGY: linear

(11) MOLECULE TYPE: protein

(X1) SEQUENCE IDENTIFI NO: SEQ ID NO:64:

```

1  His Ser His Cys Cys Met His His Val Ser Lys Arg His Leu Gln Asn
   1          5          10          15
2  Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
   20          25          30          35
3  Gly Val His His Thr Thr Lys Lys Gly Gln Gln His Cys Gly Asp Pro
   40          45          50          55
4  Lys Gln Gln Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
   60          65          70          75          80
5  Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
   85          90          95          100
6  Gln Arg Tyr His

```

(2) INFORMATION FOR SEQ ID NO:64:

(1) SEQUENCE CHARACTERISTICS:
 (a) LENGTH: 85 amino acids
 (b) TYPE: amino acid
 (c) TOPOLOGY: linear

(11) MOLECULE TYPE: protein

(xii) SEQUENCE IDENTIFICATION: SEQ ID NO:64:

```

1  Ile Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Ile Gln Asn
   10
2  Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
   20
3  Gly Val Ile Ile Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
   30
4  Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
   40
5  Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
   50
6  Gln Arg Tyr Pro Gly Asn
   60

```

(2) INFORMATION FOR SEQ ID NO:65:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 87 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xiii) SEQUENCE IDENTIFICATION: SEQ ID NO:65:

```

1  Ile Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Ile Gln Asn
   10
2  Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
   20
3  Gly Val Ile Ile Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
   30
4  Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
   40
5  Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
   50
6  Gln Arg Tyr Pro Gly Asn
   60

```

DEFINITION: ...

- ACCESSION: ...
- FEATURES: ...
- ORIGIN: ...

... ..

(X1) SEQUENCE DESCRIPTION: SEQ ID NO:66:

Pro Ser Ile Tyr Cys Met Phe Phe Val Ser Lys Arg Ile Ile Gln Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45
Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 55 60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
65 70 75 80
Gln Arg Tyr Pro Gly Asn Gln Thr
85

(2) INFORMATION FOR SEQ ID NO:67:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(X1) SEQUENCE DESCRIPTION: SEQ ID NO:67:

Pro Ser Ile Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln Asn
1 5 10 15
Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala
20 25 30
Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro
35 40 45
Lys Gln Glu Trp Val Phe Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln
50 55 60
Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val
65 70 75 80
Gln Arg Tyr Pro Gly Asn Gln Thr Thr
85

INFORMATION FOR SEQ ID NO:68:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

1 Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln Asn 15
 5
 20 Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys Ala 30
 25
 35 Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp Pro 45
 40
 50 Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys Gln 60
 55
 65 Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro Val 80
 70
 85 Gln Arg Tyr Pro Gly Asn Gln Thr Thr Cys 90

(ii) INFORMATION FOR SEQ ID NO:69:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 46 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

1 Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln 15
 5
 20 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Asn Ser Thr Cys Leu Lys 30
 25
 35 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys 45
 40

(ii) INFORMATION FOR SEQ ID NO:70:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 47 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

1 Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln 15
 5
 20 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Asn Ser Thr Cys Leu Lys 30
 25
 35 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys 45
 40

Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Glu Glu Phe Thr Gly
35 40 45

(2) INFORMATION FOR SEQ ID NO:71:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 48 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1 5 10 15
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 25 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Glu Glu Phe Cys Gly Asp
35 40 45

(2) INFORMATION FOR SEQ ID NO:72:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1 5 10 15
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 25 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Glu Glu Phe Cys Gly Asp
35 40 45

INFORMATION FOR SEQ ID NO:73:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

```

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln
1           5           10           15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20           25           30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35           40           45
Pro Lys
50

```

(2) INFORMATION FOR SEQ ID NO:74:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 51 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

```

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln
1           5           10           15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20           25           30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35           40           45
Pro Lys Gln
50

```

(2) INFORMATION FOR SEQ ID NO:75:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 42 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

```

Met Ile Val Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
1           5           10           15           20           25

```

Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Ala Ser Thr Cys Leu Lys
 10 20 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Ser
 35 40 45
 Pro Lys Gln Gln
 50

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 53 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln
 1 5 10 15
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 20 25 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
 35 40 45
 Pro Lys Gln Gln Thr
 50

(2) INFORMATION FOR SEQ ID NO:77:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 54 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

Met Ile Ser Ile Cys Tyr Met Phe Phe Val Ser Lys Arg Ile Pro Gln
 1 10 20 30
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 35 40 45
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
 50 55
 Pro Lys Gln Gln Thr
 60

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 55 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

```
Met Pro Ser Pro Cys Cys Met Phe Ile Val Ser Lys Arg Ile Pro Glu
1           5           10           15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20           25           30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Arg
35           40           45
Pro Lys Gln Glu Trp Val Gln
50           55
```

(2) INFORMATION FOR SEQ ID NO:79:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 56 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

```
Met Pro Ser Pro Cys Cys Met Phe Ile Val Ser Lys Arg Ile Pro Glu
1           5           10           15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20           25           30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Ile Cys Gly Arg
35           40           45
Pro Lys Gln Glu Thr Val Gln Arg
50           55
```

(2) INFORMATION FOR SEQ ID NO:80:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 57 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(X1) SEQUENCE DESCRIPTION: SEQ ID NO:1

Met Pro Ser Pro Cys Cys Met Ile Thr Val Ser Lys Arg Ile Pro Glu
1 5 10
Asn Arg Val Val Ser Tyr Val Leu Ser Ser Arg Ser Thr Cys Leu Lys
15 20
Ala Gly Val Ile Ile Thr Thr Lys Lys Gly Ile Ser Phe Cys Gly Asp
25 30 35 40 45
Pro Lys Gln Glu Thr Val Val Arg Tyr
50

(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 58 amino acids
 - (B) TYPE: amino acid
 - (C) TOPOLOGY: linear

- (ii) MOLECULE TYPE: protein

(X1) SEQUENCE DESCRIPTION: SEQ ID NO:2

Met Pro Ser Pro Cys Cys Met Ile Thr Val Ser Lys Arg Ile Pro Glu
1 5 10
Asn Arg Val Val Ser Tyr Val Leu Ser Ser Arg Ser Thr Cys Leu Lys
15 20
Ala Gly Val Ile Ile Thr Thr Lys Lys Gly Ile Ser Phe Cys Gly Asp
25 30 35 40 45
Pro Lys Gln Glu Thr Val Val Arg Tyr
50

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 58 amino acids
 - (B) TYPE: amino acid
 - (C) TOPOLOGY: linear

- (ii) MOLECULE TYPE: protein

(X1) SEQUENCE DESCRIPTION: SEQ ID NO:3

Met Pro Ser Pro Cys Cys Met Ile Thr Val Ser Lys Arg Ile Pro Glu
1 5 10
Asn Arg Val Val Ser Tyr Val Leu Ser Ser Arg Ser Thr Cys Leu Lys
15 20
Ala Gly Val Ile Ile Thr Thr Lys Lys Gly Ile Ser Phe Cys Gly Asp
25 30 35 40 45
Pro Lys Gln Glu Thr Val Val Arg Tyr
50

11 Lys Gln His Thr Val Gln Arg Tyr Met Lys
50 55

(i) INFORMATION FOR SEQ ID NO 33:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 60 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO 33:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1 5 10 15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 25 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35 40 45
Pro Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn
50 55 60

(i) INFORMATION FOR SEQ ID NO 34:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 61 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO 34:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1 5 10 15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 25 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35 40 45
Pro Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn
50 55 60

(i) INFORMATION FOR SEQ ID NO 35:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 61 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(1) MOLECULE TYPE: protein

(X1) SEQUENCE IDENTIFICATION: SEQ. ID NO:80:

Met Ile Ser Trp Tyr Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu
1 19
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 25 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
31 40 45
Ile Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asp
50 55 60

(2) INFORMATION FOR SEQ ID NO:80:

- (1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 63 amino acids
(B) TYPE: amino acid
(C) TOPLOGY: linear

(11) MOLECULE TYPE: protein

(X1) SEQUENCE IDENTIFICATION: SEQ. ID NO:81:

Met Ile Ser Ile Tyr Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu
1 19
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
2 25 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
31 40 45
Ile Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Arg Ala
50 55 60

(2) INFORMATION FOR SEQ ID NO:81:

- (1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 63 amino acids
(B) TYPE: amino acid
(C) TOPLOGY: linear

(11) MOLECULE TYPE: protein

Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 25
 Ala Gly Val Ile Ile Thr Thr Lys Lys Gly Gln Gln Ile Cys Gly Asp
 30 40 45
 Pro Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
 50 55 60

(ii) INFORMATION FOR SEQ ID NO:88:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 65 amino acids
 - (B) TYPE: amino acid
 - (D) TOPLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
 1 5 10 15
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 20 25 30
 Ala Gly Val Ile Ile Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
 35 40 45
 Trp Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
 50 55 60
 Gln
 65

(ii) INFORMATION FOR SEQ ID NO:89:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 66 amino acids
 - (B) TYPE: amino acid
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

Met Pro Val Ile Cys Cys Met Phe Ile Val Val Ile Arg Ile Ile
 1 5 10 15
 Asn Ser Val Val Ser Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
 20 25 30
 Trp Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
 35 40 45
 Gln
 50 55 60
 Gln
 65

Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
1 5 10

Glu Lys
11

(i) INFORMATION FOR SEQ ID NO:90:

- (1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 67 amino acids
 (B) TYPE: amino acid
 (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1 5 10
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
11 21 31
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35 40 45
 Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
51 55 60
 Gln Lys Lys
67

(i) INFORMATION FOR SEQ ID NO:91:

- (1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 68 amino acids
 (B) TYPE: amino acid
 (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

Met Ile Asn Lys Cys Tyr Ser Phe Thr Val Ser Lys Asn Ile Glu Lys
1 11
 Asn Arg Val Lys Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
11 21 31
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35 40 45
 Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
51 55 60

Gln Lys Lys
68

(i) INFORMATION FOR SEQ ID NO:42:

- (1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 69 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:

```
Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1          5          10          15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35          40          45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50          55          60
Gln Lys Lys Ala Ser
65
```

(i) INFORMATION FOR SEQ ID NO:43:

- (1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 70 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:

```
Met Pro Ser Phe Cys Cys Met Phe Phe Val Ser Lys Arg Ile Phe Glu
1          5          10          15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35          40          45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50          55          60
Gln Lys Lys Ala Ser
65
```

(ii) MOLECULE TYPE: protein

SEQUENCE DATA: 1-70

(b) TYPE: amino acid
(c) TOPOLOGY: linear

(iii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

```
Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln
1          5          10          15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35          40          45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50          55          60
Gln Lys Lys Ala Ser Pro Arg
65          70
```

(xii) INFORMATION FOR SEQ ID NO:95:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 72 amino acids
(b) TYPE: amino acid
(c) TOPOLOGY: linear

(iii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

```
Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln
1          5          10          15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35          40          45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50          55          60
Gln Lys Lys Ala Ser Pro Arg
65          70
```

(xii) INFORMATION FOR SEQ ID NO:96:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 72 amino acids
(b) TYPE: amino acid
(c) TOPOLOGY: linear

(iii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

Met Ile Ser Ile Cys Cys Met Phe Phe Val Ser Lys Arg Ile Ile Glu
1 5 10
Asn Asn Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
15 20 25 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35 40 45
Pro Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50 55 60
Gln Lys Lys Ala Ser Pro Arg Ala Arg
65 70

(2) INFORMATION FOR SEQ ID NO:97:

- (i) SEQUENCE CHARACTERISTICS:
 - (a) LENGTH: 74 amino acids
 - (b) TYPE: amino acid
 - (c) TOPOLOGY: linear

- (ii) MOLECULE TYPE: protein

(xii) SEQUENCE DESCRIPTION: SEQ ID NO:97:

Met Ile Ser Ile Cys Cys Met Phe Phe Val Ser Lys Arg Ile Ile Glu
1 5 10
Asn Asn Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
15 20 25 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35 40 45
Ile Lys Gln Gln Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50 55 60
Gln Lys Lys Ala Ser Pro Arg Ala Arg
65 70

(2) INFORMATION FOR SEQ ID NO:98:

- (i) SEQUENCE CHARACTERISTICS:
 - (a) LENGTH: 74 amino acids
 - (b) TYPE: amino acid
 - (c) TOPOLOGY: linear

- (ii) MOLECULE TYPE: protein

(2) INFORMATION FOR SEQ ID NO:99:

Met Pro Ser His Tyr Cys Met Phe Phe Val Ser Lys Arg Ile His Glu
1 10 15
Asn Arg Val Val Ser Tyr Leu Leu Ser Ser Arg Ser Thr Tyr Leu Lys
20 25
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn
30 35 40 45
Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50 55 60
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val
65 70 75

(2) INFORMATION FOR SEQ ID NO:99:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 76 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1 10 15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 25 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn
35 40 45
Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50 55 60
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala
65 70 75

(2) INFORMATION FOR SEQ ID NO:100:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 76 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1 10 15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 25 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn
35 40 45
Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50 55 60
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala
65 70 75

Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Tyr Gly Arg
 35 40
 Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asn Lys Tyr
 45 50
 Gln Lys Lys Ala Ser Phe Arg Ala Arg Ala Val Ala Val
 55 60 65

(i) INFORMATION FOR SEQ ID NO:101:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 78 amino acids
 - (B) TYPE: amino acid
 - (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Gln
 1 5 10
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Tyr
 20 25 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Tyr Gly Arg
 35 40 45
 Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asn Ala Lys
 50 55 60
 Gln Lys Lys Ala Ser Phe Arg Ala Arg Ala Val Ala Val Lys
 65 70 75

(ii) INFORMATION FOR SEQ ID NO:102:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 78 amino acids
 - (B) TYPE: amino acid
 - (C) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xii) SEQUENCE DESCRIPTION: SEQ ID NO:102:

Met Ile Val Ile Tyr Lys Met Ile Ile Val Lys Arg Ile Ile
 1 5
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Tyr
 20 25 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Tyr Gly Arg
 35 40 45
 Pro Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asn Ala Lys
 50 55 60
 Gln Lys Lys Ala Ser Phe Arg Ala Arg Ala Val Ala Val Lys
 65 70 75

Thr Lys Lys Ala Ser Thr Arg Ala Arg Ala Val Ala Val Lys Gly
1 5 10

(ii) INFORMATION FOR SEQ ID NO:103:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 80 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(iii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1 5 10
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35 40 45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50 60
Gln Lys Lys Ala Ser Thr Arg Ala Arg Ala Val Ala Val Lys Gly Pro
65 70 75

(ii) INFORMATION FOR SEQ ID NO:104:

- (i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 81 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(iii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

Met Thr Ser Thr Cys Cys Thr Thr Thr Val Ser Lys Arg Ile Pro Glu
1 5 10
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35 40 45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50 60
Gln Lys Lys Ala Ser Thr Arg Ala Arg Ala Val Ala Val Lys Gly Pro
65 70 75

Val

INFORMATION FOR SEQ. ID NO:1094

- (i) SEQUENCE CHARACTERISTICS:
(a) LENGTH: 82 amino acids
(b) TYPE: amino acid
(c) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1094

Met Pro Ser Pro Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Glu
1 5 10 15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 25 30
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35 40 45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50 55 60
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro
65 70 75 80
Val Gln

(i) INFORMATION FOR SEQ ID NO:1095

- (i) SEQUENCE CHARACTERISTICS:
(a) LENGTH: 83 amino acids
(b) TYPE: amino acid
(c) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:1095

Met Ile Ser Ile Cys Cys Met Ile Ile Val Ser Lys Arg Ile Pro Glu
1 5 10 15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20 25 30
Ala Gly Val Ile Ile Thr Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35 40 45
Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50 55 60
Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro
65 70 75 80
Val Gln

Val Glu Arg

(C) INFORMATION FOR SFO ID NO:107:

- (1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 84 amino acids
 (B) TYPE: amino acid
 (C) TOPology: linear

(2) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SFO ID NO:107:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
 1 5 10
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 20 25 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
 35 40 45
 Pro Lys Gln Gln Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
 50 55 60
 Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro
 65 70 75 80
 Val Glu Arg Tyr

(C) INFORMATION FOR SFO ID NO:108:

- (1) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 85 amino acids
 (B) TYPE: amino acid
 (C) TYPE: amino acid
 (D) TOPology: linear

(2) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SFO ID NO:108:

Met Ile Ser Pro Tyr Tyr Ile Ile Val Ser Tyr Ala Ile Ile Glu
 1 5 10
 Asn Arg Ile Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 20 25 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
 35 40 45
 Pro Lys Gln Gln Tyr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
 50 55 60
 Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro
 65 70 75 80
 Val Glu Arg Tyr

WILLIAM A. D. D. D. D.

(1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 amino acids
(B) TYPE: amino acid
(D) TOPOLOGY: linear

(x1) SEQUENCE DESCRIPTION: SEQ ID NO:109:

```

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
1          5          10          15
Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
20          25          30          35
Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
35          40          45
Phe Lys Gln Gln Thr Val Gln Arg Tyr Met Lys Asn Leu Asp Ala Lys
50          55          60
Gln Lys Lys Ala Ser Thr Asn Ala Arg Ala Val Ala Val Lys Gly Ile
65          70          75          80
Val Gln Asn Tyr Pro Gly
85

```

(1) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 51 amino acids
(B) TYPE: amino acid
(C) TOTAL ST: 113

(11) Mg^{2+} 和 Ca^{2+} 的沉淀顺序与 Mg^{2+} 和 Ca^{2+} 的相对含量有关。

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

50 60
 Gln Lys Lys Ala Ser Thr Arg Ala Arg Ala Val Ala Val Lys Gly Ile
 65 70
 Val Gln Ala Tyr Thr Gly Asn
 85

(1) INFORMATION FOR SEQ ID NO:111:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:111:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
 1 5 10 15
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 20 25 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn
 35 40 45
 Pro Lys Gln Gln Trp Val Gln Asp Tyr Met Lys Asn Leu Asp Ala Lys
 50 55 60
 Gln Lys Lys Ala Ser Thr Arg Ala Arg Ala Val Ala Val Lys Gly Phe
 65 70 80
 Val Gln Ala Tyr Thr Gly Asn Gln
 85

(2) INFORMATION FOR SEQ ID NO:112:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:112:

Met Ile Ser Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr
 1 10
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 20 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asn
 40 50 60 70 80

Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Arg Ala Lys
 55
 Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Tyr Ile
 65
 Val Gln Arg Tyr Pro Gly Asn Gln Thr
 85

(ii) INFORMATION FOR SEQ ID NO:113:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 90 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:113:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
 1 5 10 15
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 20 25 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
 35 40 45
 Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Arg Ala Lys
 50 55 60
 Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro
 65 70 75 80
 Val Gln Arg Tyr Pro Gly Asn Gln Thr Thr
 85

(ii) INFORMATION FOR SEQ ID NO:114:

- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 91 amino acids
 (B) TYPE: amino acid
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:

Met Pro Ser Pro Cys Cys Met Phe Phe Val Ser Lys Arg Ile Pro Glu
 1 5 10 15
 Asn Arg Val Val Ser Tyr Gln Leu Ser Ser Arg Ser Thr Cys Leu Lys
 20 25 30
 Ala Gly Val Ile Phe Thr Thr Lys Lys Gly Gln Gln Phe Cys Gly Asp
 35 40 45
 Pro Lys Gln Glu Trp Val Gln Arg Tyr Met Lys Asn Leu Arg Ala Lys
 50 55 60
 Gln Lys Lys Ala Ser Pro Arg Ala Arg Ala Val Ala Val Lys Gly Pro
 65 70 75 80
 Val Gln Arg Tyr Pro Gly Asn Gln Thr Thr
 85

4)

4

4)

Pro. Lys. Glu. Ser. Asp. Val. Ala. Arg. Tyr. Met. Lys. Asn. Leu. Arg. Ala. Lys.

Glu. Lys. Lys. Ala. Ser. Lys. Asn. Ala. Asn. Ala. Val. Ala. Val. Lys. Gly. Leu.

Val. Glu. Arg. Tyr. Ile. Gly. Asn. Glu. Glu. Thr. Gly.